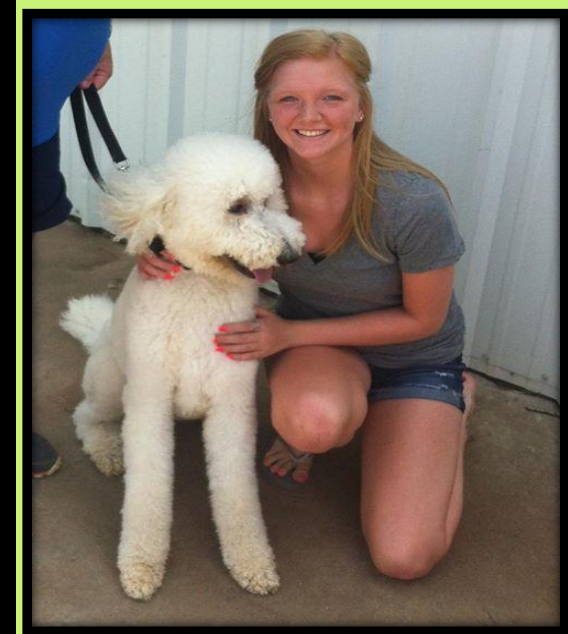


SERVICE DOGS FOR GLYCEMIC DETECTION

Emily Piven, OTD, MHE, OTR



OBJECTIVES

- 1. Explain ADA requirements and tax deductions for a medical service dog.**
- 2. Review the limited current research about dogs for glycemic protection.**
- 3. Review the training of medical service dogs for glycemic protection.**
- 4. Discuss benefits of service dogs as another tool for diabetes.**
- 5. Consider the cultural implications of having a service dog.**
- 6. Identify resources for finding well-trained dogs.**

OBJECTIVE 6

6. Identify resources for finding well-trained dogs.

Objective 6 is met by the 4 handouts that I have provided as resources for the lecture.

Changes in the ADA definition of Service Animals effective 3/15/11 [8]

- **The ADA restricts service animals to dogs.**
They must be leashed or harnessed and be controlled through voice or signals.
- **Permissible questions from the public: Is this a service dog? What task has the dog been trained to perform?**
- **Additional pet charges are deleted.**
- **Can't request documentation (no formal training or certification required).**

- **Service providers cannot ask about the person's disability, require training or medical documentation.**
- **Allergies or fear of dogs are not reasons to deny access. If a person is allergic or afraid, both should be accommodated.**
- **A person with disability cannot be asked to leave unless 1) dog is not housebroken 2) or is out of control.**
- **Can't exclude from health care settings, except operating rooms and burn units and zoos.**
- **Where state or local laws do not agree the ADA, the least law restrictive applies.**

Service Animals and the IRS

“Can deduct as medical expenses the costs of buying, training, and maintaining a dog such as food, grooming, and veterinary care, incurred in maintaining the health and vitality of the service animal so that it may perform its duties.” [1]

Think pawsitive!



The Nose Knows

- The ability to smell is based on the number of olfactory cells— the more olfactory cells there are, the more acute the sense of smell.
- Compared to humans with 5 mil olfactory cells, dogs may have up to 220 mil [2] enabling the dog's nose may actually be more than 1,000 times more sensitive than humans.

RESEARCH FINDINGS DIABETES ALERT DOGS (DADs)

- Why do people with diabetes seek DADs, despite high cost?
- The ADI provides a comprehensive accreditation system w/ chapter in Calif. [3]
- There is mostly anecdotal evidence rather than scientific research.
- Most of the reported research has been about pets alerting to hypoglycemia.



Mark Ruefenacht from Dogs4Diabetics stated,
“People have hypoglycemic symptoms, but what we found is that dogs were not alerting to a static number. They may alert at 150, but within 20 or 30 minutes, the person is down to 70 or lower. They are recognizing a scent emitted when a diabetic begins to experience a rapid drop in blood sugar.” [4]

Ruefenacht realized early warnings should not be disregarded. *“It allows time to treat the condition before it turns into a crisis.”* [4]

Single Case Study

- 72 y/o male unconscious undiagnosed with diabetes, taken to an Irish ER.
- Dog was barking.
- Good review of untrained pets alerting to hypoglycemia [5].

Dogs as Pets Detecting Hypoglycemia [6]

- 212 dog owners with T1DM
- Retrospective Survey method
- 65.1% respondents indicated their dog alerted to at least one episode of hypoglycemia
- 36% indicated their dog responded most of the time.
- 33.6% indicated dog knew before they did.

Methods of Untrained Dogs for Alerting [6]

- **Vocalizing (61.5%)**
- **Licking them (49.2%)**
- **Nuzzling them (40.6%)**
- **Jumping on top of them (30.4%)**
- **Staring intently at their faces (41.3%).**
- **Fear responses of trembling (7.2%),
running away from the owner (5.1%),
hyperventilating (2.2%).**

Trained Service Dogs [7]

- **Exploratory online survey**
- **Convenience sample of 36 participant owners-23 parent of children with dogs, 13 adults all with T1DM drawn from Virginia-based non profit organization called Service Dogs by Warren Retrievers, Inc.**

Trained Service Dogs [7]

- Reported frequency of hypoglycemia, diabetes control, QoL prior to and since DAD placement.
- 36.1% didn't have hypoglycemia in the past month w/o response from the DAD.
- 27.8% reported < than 1 event/wk.
- 36.1% reported > than 1 event/wk.
- 91.7% had alerts at 3.3-3.9 mmol/L.

CLINICAL OUTCOMES

Participants reported:

- Significant decreases in the frequency of severe ($p < 0.039$) and moderate ($p < 0.02$) hypoglycemia since DAD placement
- Improvement in HbA1c levels ($p < .0.01$).

Psychosocial Outcomes

- **61% reported decreased worry about hypoglycemia**
- **61.1% had decreased worry about hyperglycemia**
- **75% reported improved QoL**
- **75% reported ability to participate in more physical activities.**

Study Limitations

- **Small # participants, one trainer**
- **Subject and retrospective nature of study**
- **Less than perfect accuracy of glucose levels by technology <75 mg/dL or 4.2 mmol/L**
- **No use of additional tools such as QoL, self-efficacy or diabetes- intrusiveness measures.**
- **No standardization of survey.**

Choosing a Service Provider [9]

- **Look for organizations that are either accredited with Assistance Dogs International or members of the International Association of Assistance Dog Partners. Read up on what each organization requires from its members, and see how the organization or trainer in question compares.**
- **Look for organizations that use positive reinforcement training methods.**

Choosing a Service Provider [9]

- **Don't get a dog from a trainer or organization that will not allow you to visit the training facility (Spend time with the trainers and staff, and ask questions.**
- **Meet or speak to other clients or customers, if possible.**
- **Search the Internet to see what other people's experiences have been with a group or trainer.**
- **Ask the trainer about follow-up support: What is provided, and how?**

Choosing a puppy to train as a DAD

Choosing the puppy is hard:

1. Must have good prey drive and work ethic.
2. Must be self-confident, not discouraged easily.
3. Must not show shyness or aggression.

Guidelines for Finding a Trainer

- 1. Don't buy a puppy from an organization & assume that they will pick the best puppy for you.**
- 2. Ask to put the puppy through the tests you rself just as you would an adult dog.**
- 3. Ask for health records, demand to see the kennel and parents of the pup.**
- 4. When they say the pup was scent imprinted ask about procedures and exactly how the imprinting was done.**

Guidelines for Finding a Trainer

5. Be very careful of anyone that's says they are selling you a puppy that will save your child's life.

6. Next step is a health evaluation from your vet: Hip x-ray, routine blood tests, heart worm snap.

OBEDIENCE TRAINING for a DAD

Heeling, this is the most difficult to teach a new handler, so trainers should make the dog as automatic as possible. DAD should walk calmly beside you, stay focused on you and not distractions.

Must respond to **sit**, **down**, **stay**, **leave it**, **come** & **under**.

Public Access Training

Dog begins on a treadmill as prep to walk on a moving floor on escalators, moving walkways at airports & elevators.

Training environments:

restaurants, malls, stores, & all places that we go on a daily basis.

They must accept places with crowds and not be distracted by them.

Public Access Training

Airplanes are very easy for the dogs. They don't seem to know or care. By the time they are exposed to air they have had many car rides etc. and they trust the **trainer will keep them safe.**

From now on until the training is finished these skills are reinforced.

Operant Conditioning

- **DADs behavior must be shaped with continuous reinforcement (treats) and maintained.**
- **DADs can be untrained by inconsistent and poor handling. They require continuous training.**
- **DADs cannot call the EMTs.**
- **Handlers will require extra glucose test strips to reinforce the dog and clarify what their glucose is.**

Scent Training

Hiding the scent, treat the dog when they find it (similar to drug dog training).

This too is worked everyday until the dog is placed with their new handler.

They must be able to find the scent with distractions and under adverse conditions.

Benefits of DAD

- **Feeling safe alone and in public**
- **Increased quality of life & companionship**
- **Increased physical activity**
- **Person pays more attention to checking blood sugars**
- **Increased socialization**
- **Improved regulation**
- **Increasing independence**
- **Relaxation of concern by family**

Cultural Issues

- A person may not want or like the curious attention that comes with a dog.
- Handlers must learn to respond to questions assertively and discourage inappropriate behavior from others in a positive manner.
- Get used to the idea that you will need to educate others and be first on the plane.

References

1. IRS (2012). Publication 502 Medical and Dental Expenses Retrieved from <http://www.irs.gov/pub/irs-pdf/p502.pdf>
2. Correa, J.E. (2011). *The dog's sense of smell*. Alabama Cooperative Extension System Alabama AGM and Auburn Universities <https://store.aces.edu/ItemDetail.aspx?ProductID=13612> Cost \$2.00
3. Assistance Dogs International (2013). Retrieved from <http://www.assistancedogsinternational.org/about-us/contact-us/>
4. Spake, A. (2008, Mar). Could a dog save your life? *Diabetes Forecast*, 61, 40-47.

References

5. O'Connor, M. B. , O'Connor, C.O., & Walsh, C.H.(2008) Type 1 diabetes and their pets. *Diabetes Medicine, 9, Supplement 2, S-3-4.*
6. Wells, D.L., Lawson, S.W., & Siriwardena, A.N. (2008). Canine responses to hypoglycemia in patients with type 1 diabetes. *Journal of Alternative and Complementary Medicine, 10, 1235-1241.*
7. Gonder-Frederick, L., Rice, P., Warren, D., Vajda, K., & Shepard, J. (2013). Diabetes Alert Dogs: A preliminary survey of current users. *Diabetes Care, 36, e47.*
8. Rosenthal, M. (2011, Apr). Diabetes alert dogs. *Diabetes Self-Management, 1-4.*